

Work Order ID 48388-1

July 10, 2009 8:15:52 AM

Split 0 Rev 54987



Page 1

Item ID: D3560-044  
 Revision ID: D  
 Item Name: Arm Weldment  
 Start Date: 07/08/2009  
 Required Date: 07/17/2009  
 Reference:

Start Qty: 8.00  
 Req'd Qty: 8.00



Accept



Setup Start  
 Stop



Cust Item ID:  
 Customer:

Approvals: Process Plan:  
 QC:

mf

Date: 10-01-09  
 Date:

Tooling:  
 SPC (Y/N):

Date:  
 Date:

Run Start  
 Stop



Sequence ID/  
 Work Center ID

Operation  
 Description

Set Up/  
 Run Hours

Draw  
 Number

Draw  
 Rev.

Plan  
 Code

Accept  
 Qty

Reject  
 Qty

Reject  
 Number

Insp.  
 Stamp

Draw Nbr	Revision Nbr
D3560	Rev D

100



Bandsaw

Jcaspa Bandsaw

BAND SAW

0.00



Memo

Cut blanks 15.500" long

0.00

110



HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

0.00

Memo

1- Mill as per Folio FA696 Rev: \_\_\_\_\_ & Dwg D3560 Rev: \_\_\_\_\_ 12-C'sink  
 0.196" hole on manual mill as per dwg D3560 13-Deburr per dwg D3560

0.00



120



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00





# Work Order ID 48388

July 10, 2009 8:15:52 AM



Page 2

Item ID: D3560-044  
Revision ID: D  
Item Name: Arm Weldment

Accept



Setup Start  
Stop



Start Date: 07/08/2009 Start Qty: 8.00  
Required Date: 07/17/2009 Req'd Qty: 8.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan:  
QC:

Date:  
Date:

Tooling:  
SPC (Y/N):

Date:  
Date:

Run Start  
Stop



Sequence ID/  
Work Center ID

130



QC

Quality Control

Operation  
Description

QC8- Inspect parts - second check

Set Up/  
Run Hours

0.00

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Memo

0.00



140



Large Fab

Large Fab

Large Fab

Memo

0.00

0.00

1-Weld assembly as per dwg D3560 STEP: 1- clean material (buff bracket and bottom of arm with blue pad ) 2- set up bracket and arm on jig 3- preheat bracket and arm with torch 4- clean before welding with brush 5- set up machine to 135 amps 6- weld across

10.01.04

1

150



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

2) 10/01/04





# Work Order ID 48388

July 10, 2009 8:15:52 AM



Page 3

Item ID: D3560-044  
Revision ID: D  
Item Name: Arm Weldment

Accept



Setup Start



Stop



Start Date: 07/08/2009 Start Qty: 8.00



Required Date: 07/17/2009 Req'd Qty: 8.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:  
QC:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160



QC

Quality Control

QC9- Inspect visual per QSI004- Fusion Welds

0.00

Memo

0.00

10

10.01.04

170



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

10.01.04

1

180



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

m.d

10/01/04

IX





# Work Order ID 48388

July 10, 2009 8:15:52 AM



Page 4

Item ID: D3560-044

Revision ID: D

Item Name: Arm Weldment

Start Date: 07/08/2009 Start Qty: 8.00

Required Date: 07/17/2009 Req'd Qty: 8.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

190



Small Fab

Small Fab

Small Fab

Memo

1-Press bushing in D3560 arm per dwg D3562

0.00

0.00

200



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

20 S 10/01/09

210



Packaging

Packaging

Identify as per dwg & Stock Location: NA

Memo

0.00

0.00

10.01.04

9510/01/04

H

1





# Work Order ID 48388

July 10, 2009 8:15:52 AM



Page 5

Item ID: D3560-044  
Revision ID: D  
Item Name: Arm Weldment

Accept



Setup Start  
Stop



Start Date: 07/08/2009 Start Qty: 8.00



Required Date: 07/17/2009 Req'd Qty: 8.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan:  
QC:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run Start



Stop



Sequence ID/  
Work Center ID

220



QC

Quality Control

Operation  
Description

QC21- Final Inspection - Work Order Release

Memo

Set Up/  
Run Hours

0.00

0.00

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

10-01-05

10-1-04



# Picklist Print

July 10, 2009 8:15:51 AM

Page 1

Work Order ID: 48388

Parent Item: D3560-044RevD

Parent Item Name: Arm Weldment

Comments:

Start Date: 07/08/2009

Required Date: 07/17/2009

Start Qty: 8.00

Required Qty: 8.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2808RevB		Manufactured	No			100	Each	51.0000	8.0000			
Bushing												

*gpb/01/04*

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	51	
32896	4	
41708	3	
42181	3	
46738	41	
	140	
	f	
	157.4000	10.9053

M6061T6B0.500X05.00  
0

Purchased No



6061-T6 Bar .500 x 5.00

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
MAT	157.4	
106747	20	
111408	17.4	
112041	60	
112154	60	

*SL 09.12.29*



# Picklist Print

July 10, 2009 8:15:51 AM

Page 2

Work Order ID: 48388

Parent Item: D3560-044RevD

Parent Item Name: Arm Weldment

Comments:

Start Date: 07/08/2009

Required Date: 07/17/2009

Start Qty: 8.00

Required Qty: 8.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3592-1RevB		Manufactured	No			190	Each	102.0000	8.0000			
Plate												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
Main Warehouse		
ST	102	
32661	3	
35331	1	
41083	6	
42279	1	
42417	3	
47015	25	
48517	63	

*Handwritten signature and date: 07.12.29*

July 10, 2009 8:15:51 AM

Shop Packet Print

Page 2





Date: Monday, 08/06/2009 9:24:35 AM  
 User: Julie Dawson

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services

Drawing Name : ARM

Job Number : 48388

Estimate Number : 12884

P.O. Number :

This Issue : 08/06/2009

S.O. No. :

Prsht Rev. : NC

First Issue : / /

Type : MACHINED PARTS

Previous Run : 47866

Part Number : D3560044

Drawing Number : D3560 REV D

Project Number : N/A

Drawing Revision : D

Material :

Due Date : 15/06/2009

Qty: 8 Um: Each

Written By :

Checked &amp; Approved By :

Comment :

Est Rev:A New Issue 07.05.24 EC

Est Rev B ECN 987 07.10.09 EC verified by DD

Est Rev:C ECN1048 07-12-18 DD verified by: EC

## Additional Product

Job Number:

Seq. #:

Machine Or Operation:

Description :

1.0

M6061T6B0500X05000

6061-T6 Bar .500 x 5.00

Comment: Qty.: 1.3598 f(s)/Unit Total : 10.8780 f(s)

6061-T6 Bar 0.50" x 5.00"

Batch: M 112154

2.0

BAND SAW

BAND SAW

Comment: BAND SAW

Cut blanks 15.500" long

3.0

HAAS1

HAAS CNC VERTICAL MACHINING #1

Comment: HAAS CNC VERTICAL MACHINING #1

1- Mill as per Folio FA696 Rev: ~~FA~~ & Dwg D3560 Rev: B

2-C'sink 0.196" hole on manual mill as per dwg D3560

3-Deburr per dwg D3560

4.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE

Comment: INSPECT PARTS AS THEY COME OFF MACHINE



Date: Monday, 08/06/2009 9:24:35 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ARM

Job Number: 48388

Part Number: D3560044

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC8

SECOND CHECK



Comment: SECOND CHECK

5090709 (KS)

6.0

D35921

Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total: 8.0000 Each(s)  
PLATE

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld assembly as per dwg D3560

### STEP:

- 1- clean material (buff bracket and bottom of arm with blue pad )
- 2- set up bracket and arm on jig
- 3- preheat bracket and arm with torch
- 4- clean before welding with brush
- 5- set up machine to 135 amps
- 6- weld across bottom and top ends
- 7- reheat with torch ( 65 deg C )
- 8- on one side weld from bottom to top half way
- 9- same for other side (half way)
- 10- from half way point weld the rest of the first side (ease off pedal near end)
- 11- same for remaining side (ease off pedal near end)

10-01-04

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

10/01/04

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 10-01-04





Date: Monday, 08/06/2009 9:24:35 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ARM

Job Number: 48388

Part Number: D3560044

Job Number:



Seq. #:

Machine Or Operation:

Description :

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*10-01-04*

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*M-d 10/01/04*

*(14)*

12.0

D2808

Bushing



Comment: Qty.: 1.0000 Each(s)/Unit Total: 8.0000 Each(s)

Spacer

batch: *342181*

*10/01/04*

13.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Press bushing in D3560 arm per dwg D3562

*10/01/04*

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

15.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

16.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



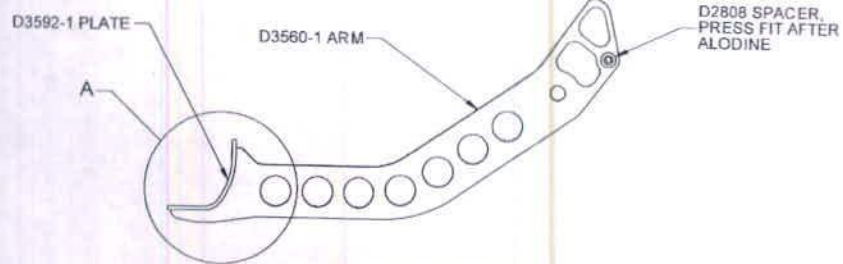




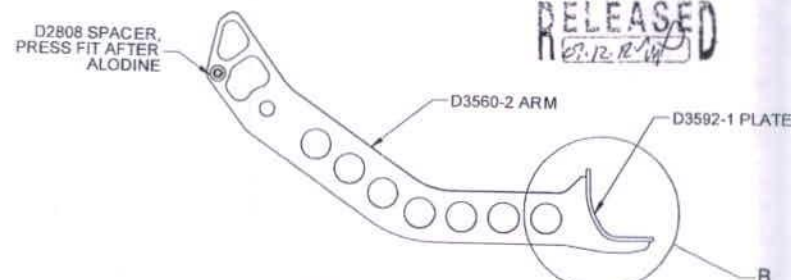




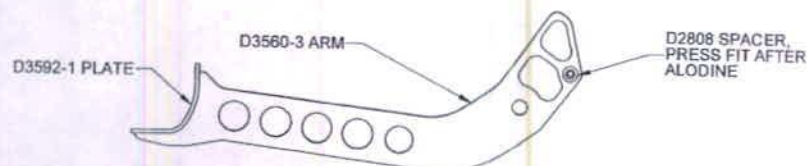
RELEASED  
07.12.16



**D3560-041 ARM WELDMENT**



**D3560-042 ARM WELDMENT**



**D3560-043 ARM WELDMENT**



**D3560-044 ARM WELDMENT**

DETAIL A  
SCALE 1:2

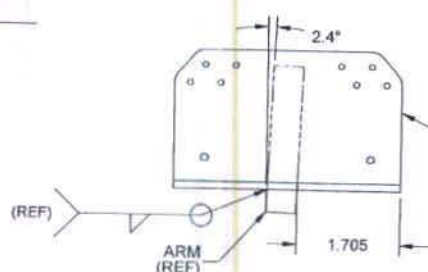
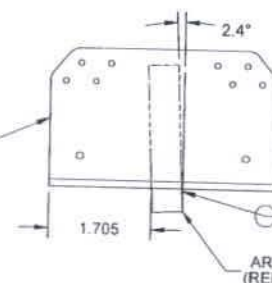


PLATE  
(REF)



ARM  
(REF)

DETAIL B  
SCALE 1:2

**PARTS LIST**

QTY -041	QTY -042	QTY -043	QTY -044	P/N	DESCRIPTION
X				D3560-041	ARM WELDMENT
	X			D3560-042	ARM WELDMENT
		X		D3560-043	ARM WELDMENT
			X	D3560-044	ARM WELDMENT
1	1	1	1	D2808	SPACER
1				D3560-1	ARM
1	1			D3560-2	ARM
		1		D3560-3	ARM
			1	D3560-4	ARM
1	1	1	1	D3592-1	PLATE

- NOTES:**
- 1) MATERIAL: N/A
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 1.23 lbs (TYP)
  - 8) WELDING: PER DART QSI 004

DESIGN	D	ADD D2808 PRESS FIT NOTE; REDRAWN IN SOLIDWORKS	DC	07.11.16
DRAWN	C	REMOVE POWDER COAT	CP	07.08.19
CHECKED	B	REDESIGN AS WELDMENT, ADD POCKETS	CP	07.01.15
MFG. APPR.	A	NEW ISSUE	CP	06.09.25
APPROVED	REV.	DESCRIPTION	BY	DATE
DE APPR.				
DATE	07.11.16			

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D3560	REV. D SHEET 1 OF 5
TITLE ARM WELDMENT SCALE 1:4	
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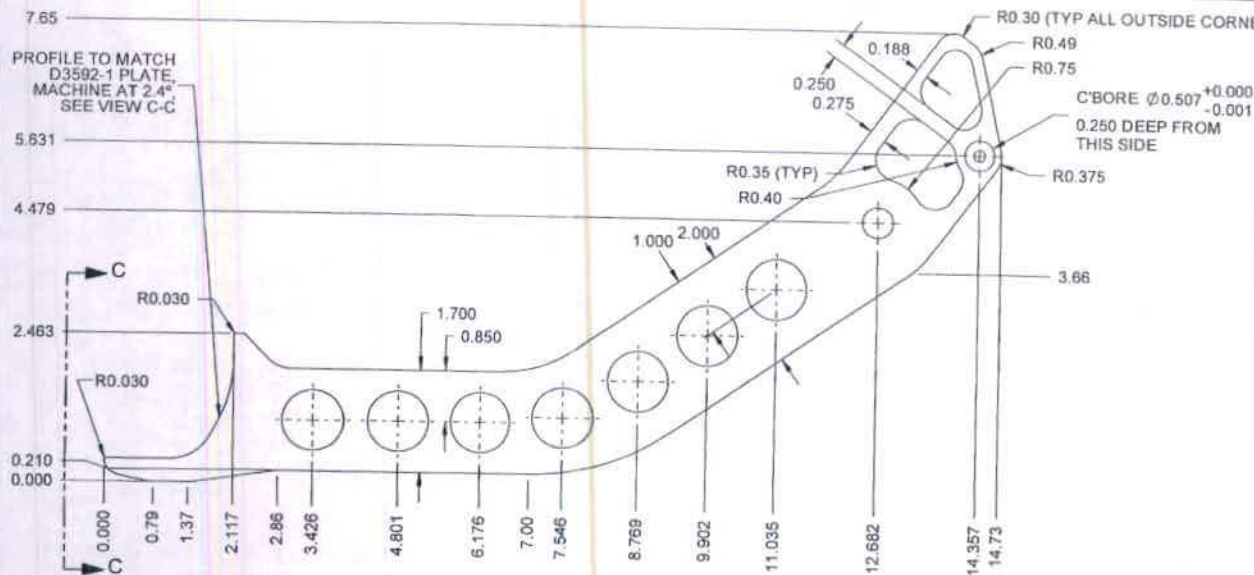
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WORK ORDER  
 NO. 48388





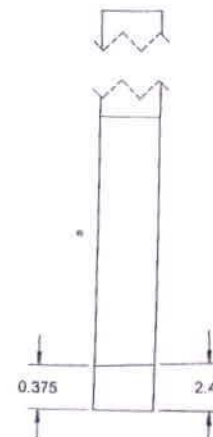
PROFILE TO MATCH  
D3592-1 PLATE  
MACHINE AT 2.4°  
SEE VIEW C-C



### D3560-1 ARM WELDMENT

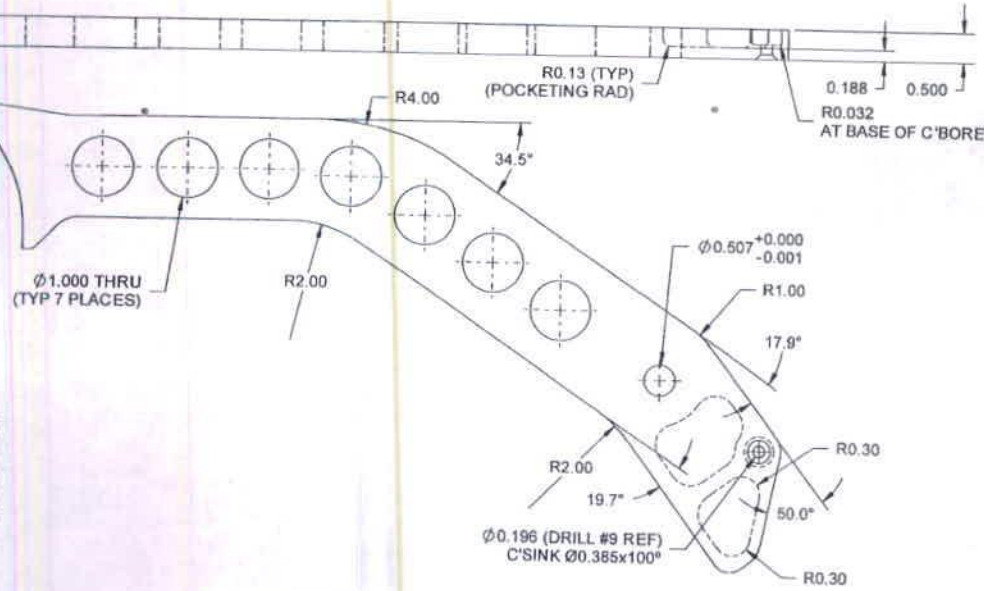
#### NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK  
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR  
PER AMS-QQ-A-200/8 (OR AMS 4160)  
(REF. DART SPEC. M0601T680.500)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.05 lbs



VIEW C-C  
SCALE 1:1

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07.12.16

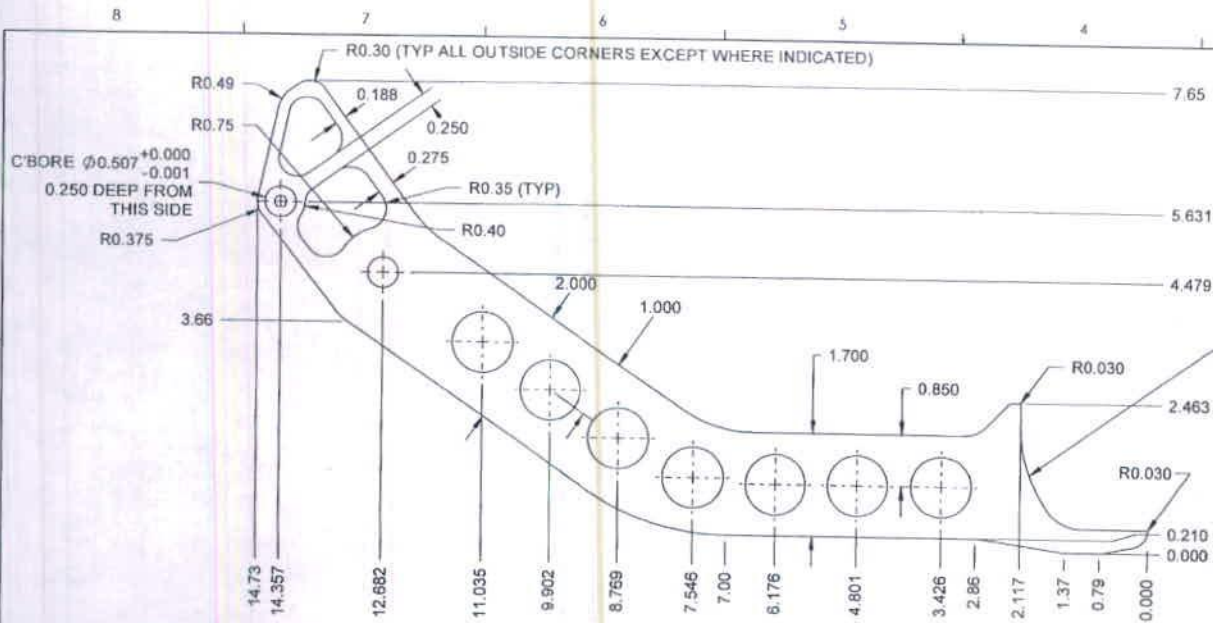


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DRAWN	dc			
CHECKED			DRAWING NO.	REV. D
MFG. APPR.			D3560	SHEET 2 OF
APPROVED			TITLE	SCALE
DE APPR.			ARM WELDMENT	1:2
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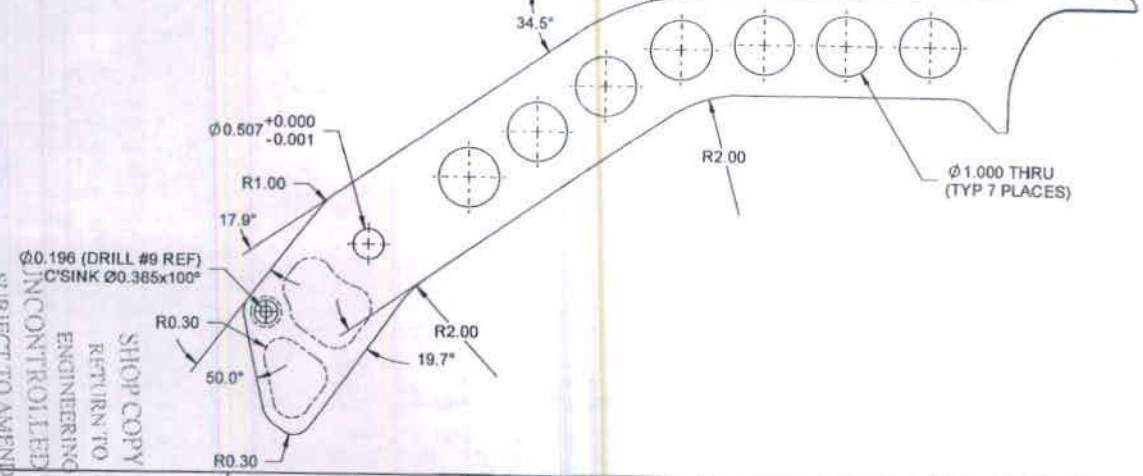
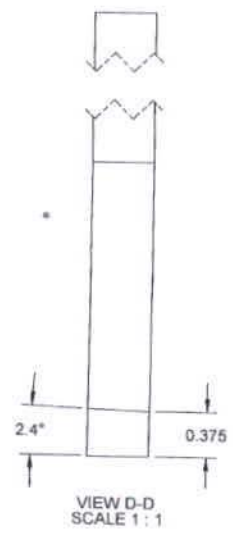
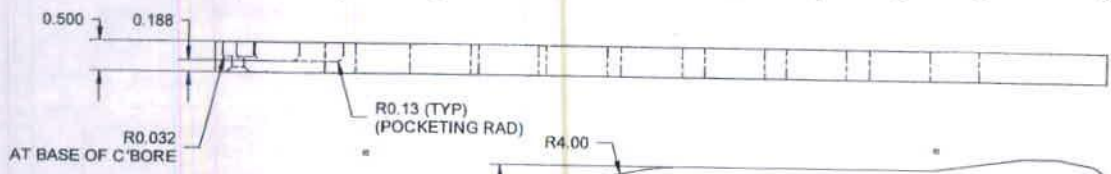




PROFILE TO MATCH  
D3592-1 PLATE,  
MACHINE AT 2.4°,  
SEE VIEW D-D

### D3560-2 ARM

- NOTES:
- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK  
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR  
PER AMS-QQ-A-200/8 (OR AMS 4160)  
(REF. DART SPEC. M6061T6B0.500)
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 1.05 lbs

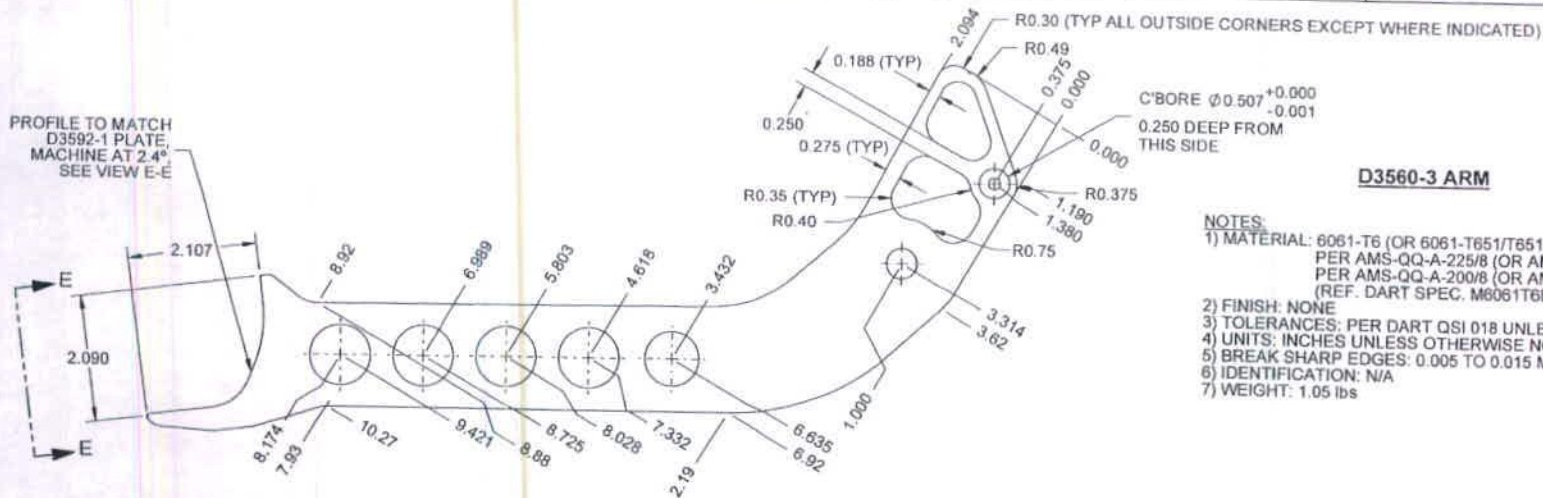


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CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3560	SHEET 3 OF 5
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DE APPR.		ARM WELDMENT	1:2
DATE	07.11.16	COPYRIGHT © 2006 BY DART AEROSPACE LTD	

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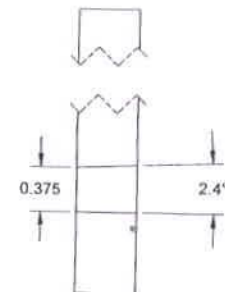
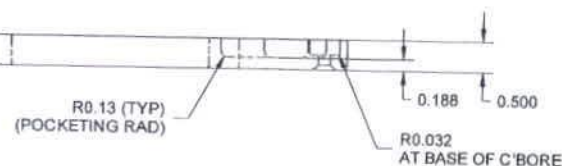
PROFILE TO MATCH  
D3592-1 PLATE  
MACHINE AT 2.4°  
SEE VIEW E-E



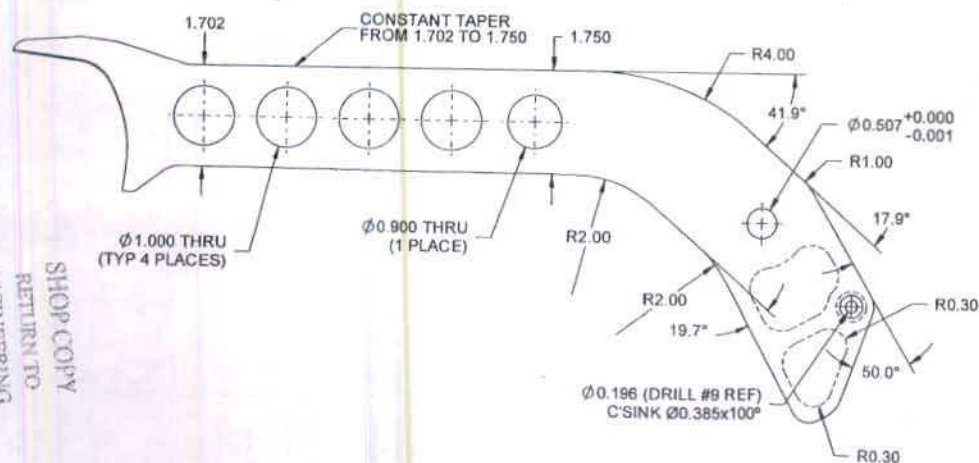
### D3560-3 ARM

#### NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK  
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR  
PER AMS-QQ-A-200/8 (OR AMS 4180)  
(REF. DART SPEC, M6061T6B0.500)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.05 lbs



VIEW E-E  
SCALE 1:1

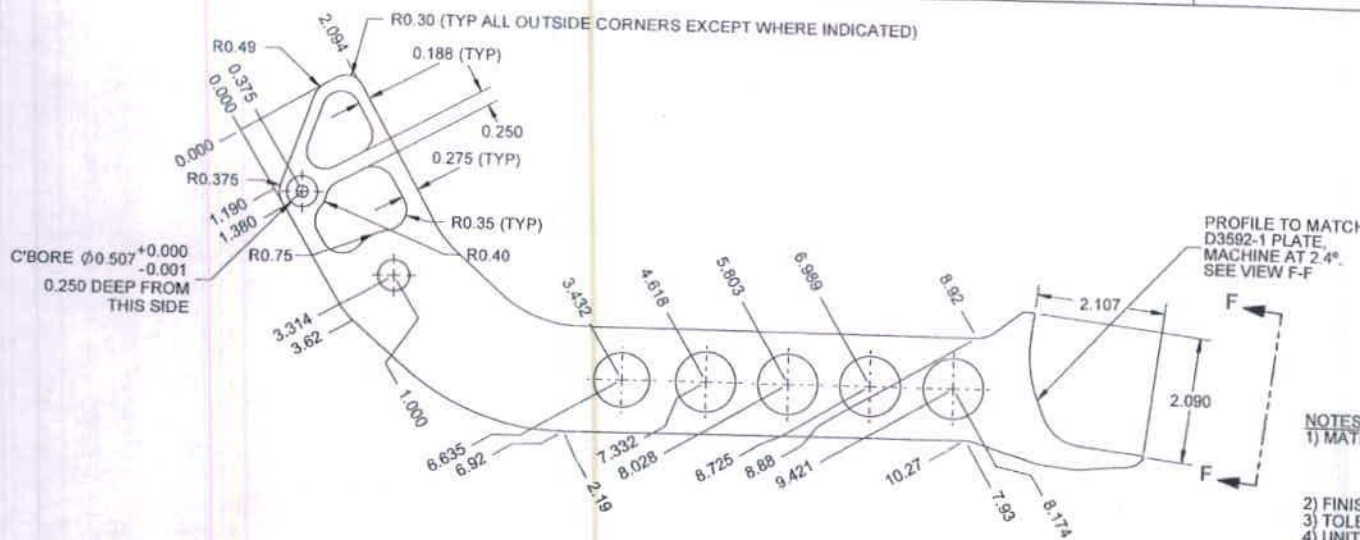


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DESIGN	4C	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	4C	DRAWING NO. D3560	REV. D
CHECKED	4C	SHEET 4 OF 5	
MFG. APPR.	4C	TITLE ARM WELDMENT	SCALE 1:2
APPROVED	4C	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
DE APPR.	4C	THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON/ORGANIZATION WITHOUT PERMISSION FROM DART AEROSPACE LTD.	
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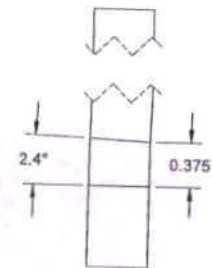






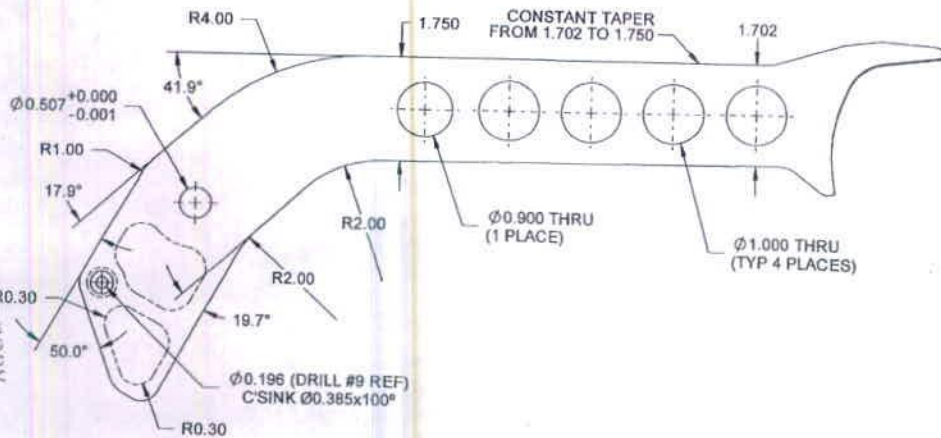
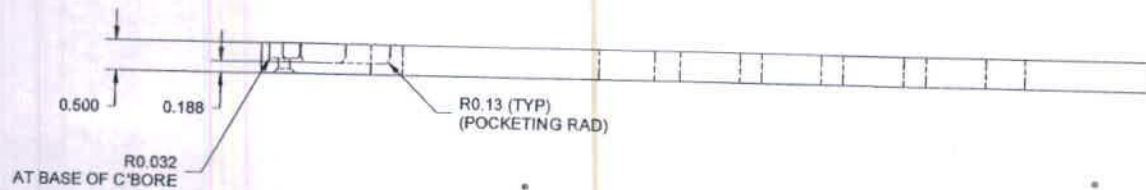
# **D3560-4 ARM**

- NOTES:
- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK  
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR  
PER AMS-QQ-A-200/8 (OR AMS 4160)  
(REF. DART SPEC. M6061T6B0.500)
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 1.05 lbs



VIEW F-F  
SCALE 1:1

RELEASED  
07-12-16



DESIGN	EC	DART AEROSPACE LTD		
DRAWN	EC	HAWKESBURY, ONTARIO, CANADA		
CHECKED		DRAWING NO.		REV. D
MFG. APPR.		D3560		SHEET 5 OF 5
APPROVED		TITLE		SCALE
DE APPR.		ARM WELDMENT		1:2
DATE	07.11.16	COPYRIGHT © 2006 BY DART AEROSPACE LTD		
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